

That which is claimed is:

1. An apparatus for removing a solvent from particulate material comprising:
 - a feeding device;
 - a desolventizer having an inlet attached to said feeding device and an outlet structure;
 - a solvent stripping device comprising a particulate treatment housing having a first and a second end and a conveying means therein, a particulate inlet, an inert gas inlet, and a particulate outlet, said particulate inlet located on said first end and connected to said desolventizer outlet;
 - a recirculation means constructed and arranged to remove solvent from said particulate treatment housing and recycle inert gas to be re-circulated into said particulate treatment housing; and
 - a sealing means connected between said outlet structure of said desolventizer and said solvent stripping device, said sealing means being constructed and arranged to prevent the movement of un-entrained solvent from entering the solvent stripping device.

2. An apparatus according to Claim 1, wherein said feeding device is comprised of an inlet, a reservoir, and an elongated-slot outlet structure, said outlet structure attached to said desolventizer inlet.

3. An apparatus according to Claim 1, wherein said recirculation means is comprised of a solvent removal device having a gas-solvent inlet, a solvent outlet, and a recycled inert gas outlet; said gas-solvent inlet and said recycled inert gas outlet being connected to said particulate treatment housing.

4. An apparatus according to Claim 1, wherein said particulate outlet and said inert gas inlet are located on said second end of said particulate treatment housing.

5. An apparatus according to Claim 1, wherein said sealing device is a plug screw mechanism.

6. An apparatus according to Claim 1, wherein said sealing device is a shroud.

7. An apparatus according to Claim 1, wherein said sealing device is comprised of a plug screw mechanism

connected to said desolventizer outlet, a conveyor means, and a shroud; said plug screw mechanism constructed and arranged to deliver particulate material from said desolventizer to one end of said conveyor means, said shroud being located in proximity to the other end of said conveyor means.

8. An apparatus according to Claim 1, wherein said particulate treatment housing has a baffle structure therein.

9. A method for removing solvent from particulate material, comprising the steps of:

providing a supply of particulate material,

contaminated with solvent, to be treated;

conveying said particulate material on a conveying

means within a housing structure having an interior;

applying a vacuum to the interior of said housing;

introducing an inert gas to said particulate material;

removing at least some of said solvent from said

contaminated particulate, thereby forming a gas-solvent mixture;

removing the gas-solvent mixture from the interior

of said housing;
removing at least a portion of the solvent from
the gas-solvent mixture to form recycled
inert gas;
recirculating the recycled inert gas into the
interior of said housing;
contacting the recycled inert gas with the
particulate;
removing solvent from the particulate, thereby
forming a gas-solvent mixture and treated
particulate;
removing the gas-solvent mixture from the interior
of said housing; and
removing the treated particulate material from
said housing.

10. A method according to Claim 9, wherein the inert
gas is continuously introduced to the particulate material.

11. A method according to Claim 9, wherein the
gas-solvent mixture is continuously recycled and re-
circulated.

12. A solvent stripping device for the stripping of
solvent from particulate material comprising:

a particulate treatment housing having an interior, a first end, a second end, a particulate inlet, an inert gas inlet, at least one recirculation inlet, at least one recirculation outlet, and a particulate outlet;

a recirculation means having at least one inlet and at least one outlet, each connected to said particulate treatment housing, being constructed and arranged to re-circulate inert gas into and out of said housing; and
a conveying means constructed and arranged within the interior of said housing.

13. A solvent stripping device according to Claim 12, wherein said conveying means is a screw conveyor.

14. A solvent stripping device according to Claim 12, wherein said conveying means is a chain driven conveyor surface.

15. An apparatus according to Claim 12, wherein said particulate treatment housing has a baffle structure therein.

16. A solvent stripping device according to Claim 15, wherein said baffle structure contains a plurality of baffles each having top and bottom ends, said baffles being generally angled with the top end of each baffle closer to the first end of the housing than the second end of the baffle.

17. A solvent stripping device according to Claim 12, wherein said inert gas inlet and said particulate outlet are located on said first end of said housing.

18. A solvent stripping device according to Claim 12, wherein said particulate inlet is located on said second end of said housing.

19. A solvent stripping device according to Claim 12, wherein said housing is sloped upward at an angle of approximately 5 degrees from first end to second end.

20. A solvent stripping device according to Claim 12, wherein said recirculation means further comprises a solvent removal device having an inert gas-solvent inlet, a solvent outlet, and an inert gas outlet; said inert gas-solvent inlet connected to said recirculation outlet and said inert gas outlet connected to said recirculation inlet.

21. A solvent stripping device according to Claim 12,
wherein said solvent removal device is further comprised of
a condensing means and a heating means.

11/11/11 11:11:11